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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,945	04/13/2004	Joseph F. Bringley	87833F-P	4460

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EXAMINER

JACKSON, MONIQUE R

ART UNIT	PAPER NUMBER
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1773

MAIL DATE	DELIVERY MODE
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06/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/822,945

Applicant(s)

BRINGLEY ET AL.

Examiner

Monique R. Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Paragraph 1 of the specification, "Cross Reference to Related Applications", includes several blank lines that need to be replaced with the proper serial numbers.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-53 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Independent claims 1 and 31 appear to rely on the alleged novel feature of a derivatized particle having a stability constant greater than 10^{10} with iron (III). However, the Applicant does not provide sufficient guidance in the instant disclosure at the time of the invention for one having ordinary skill in the art to select from an infinite number of possible particle materials, and an infinite number of functional groups, in order to obtain a derivatized particle having the claimed stability constant without performing undue experimentation. It is further noted that the Applicant provides no testing conditions with regards to the claimed stability constant and considering the testing conditions may also affect the resulting stability constant in addition to the functionality on the surface of

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the particle, a claimed stability constant with no further claimed testing conditions makes it even more difficult for one skilled in the art to make the derivatized particles, particularly since the examples provide no further guidance. Therefore, the original disclosure does not describe the subject matter in a way that one skilled in the art could make the invention without performing undue experimentation to determine what inorganic material and an attached metal-ion sequestrant or functional group would produce a derivatized particle with some stability constant greater than 10^{10} with iron (III) at some unclaimed testing conditions given the level of unpredictability in the art.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 3, 4, 33, and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The terms "high-affinity" and "high-selectivity" in claims 3/33 and 4/34 are relative terms which renders the claim indefinite. The term "high" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Hence, it is unclear as to what level of affinity or selectivity is considered "high".

6. Claims 9 and 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 9 and 39 recite that the "inorganic nanoparticles comprise silica oxides, alumina oxides, ...and alumina silicates." However, it appears as if the Applicant intended the list to be an alternative list wherein the nanoparticles can be selected from any of

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the recited materials and though alternative expressions are permissive in the claims, they should be drafted in proper alternative format, i.e. “**selected from A, B or C**”; or in proper Markush claim format, i.e. “**selected from the group consisting of A, B and C**”.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-53 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7, 12-35, and 40-62 of copending Application No. 10/936,910. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one having ordinary skill in the art at the time of the invention to combine dependent claim limitations.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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9. Claims 1-8, 13, 22, 23, 25, 27, 28, 30-38, 44-46, 48, 50, 51, and 53 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 4, 6, 10-12, 15-18, 27-31 and 34-47 of copending Application No. 10/823,443. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one having ordinary skill in the art at the time of the invention to combine dependent claim limitations.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

10. Claims 1-13, 16, 22, 23, 25, 27, 28, 30, 31, 33-42, 44-46, 48, 50, 51 and 53 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 22-24, 27, 29-42 and 45-57 of copending Application No. 10/822,940. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one having ordinary skill in the art at the time of the invention to combine dependent claim limitations.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

11. Claims 1-8, 10-15, 17-23, 25, 27, 28, 30-38, 40-48, 50, 51 and 53 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11, 13, 14, 16-22, 28, 30-33 and 46-50 of copending Application No. 10/823,446. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one having ordinary skill in the art at the time of the

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invention to combine dependent claim limitations and to select one of the obvious water permeable polymers claimed.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

12. Claims 1-10, 13, 17-23, 25 and 28 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15, 18, 22-28, and 30-33 of copending Application No. 10/823,453. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one having ordinary skill in the art at the time of the invention to combine dependent claim limitations.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

13. Claims 1-2, 5-28 and 30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 6, 10-11, 16-18, 25-28, 31-34, 37-39 and 43 of copending Application No. 10/822,929. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one having ordinary skill in the art at the time of the invention to combine dependent claim limitations.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

15. Claims 1-16, 22-23, 25, 27, 28, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Engle et al. Engle et al teach a coating composition comprising a water-soluble or water-dispersible polymer (*reads upon permeable to water*) and a sol comprising a colloidal dispersion of surface-modified, inorganic microparticles in liquid, wherein the inorganic microparticles have an average particle size in the range of from about 2nm to about 200nm (*inherently has a specific surface area as claimed*), most preferably about 20 to about 75nm, and include various metal oxides such as silica, alumina, titania, and zirconia as instantly claimed (Abstract; Col. 4, lines 12-24.) Engle et al teach that the microparticles are surface treated with silane coupling agents to produce microparticles with surface-attached or surface-bonded organic moieties wherein Engle et al specifically teach the use of N-(trimethoxysilylpropyl) ethylenediamine triacetic acid (Col. 8, lines 10-34; *reads upon the claimed metal-ion sequestrant formed by reacting with a metal alkoxide with an alpha amino carboxylate functional group and would inherently have a stability constant as instantly claimed.*) Engle et al also teach that the inorganic oxide sol is preferably provided in an amount of 1-70wt%, more preferably 5-40wt%, and that the polymer may include acrylic copolymers and aqueous latexes (Col. 8, lines 54-59; Examples.) Engle et al further teach applying the coating composition to a substrate to form a coated article (Abstract; Claim 28; *reads upon support structure.*) Though

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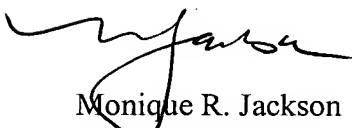
Engle et al do not specifically teach that the surface-modified particles or the coated article is utilized for inhibiting the growth of microbes or has the limitations as claimed in instant claims 22-23, 25, 27, 28, and 30, the Examiner takes the position that these limitations constitute intended use of the composition and article and do not provide any additional structural or material limitations to differentiate it from the invention taught by Engle et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508.

The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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June 11, 2007